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CONTENTS.

GUERSANT ON SURGICAL DISEASES OF INFANTS, ETC. 16 PAGES.

CLINICS.

CLINICAL LECTURES.

Clinical Lecture on the Recurrent and Malignant Tumours of the Breast. By CHRISTOPHER HEATH, F.R.C.S., Surgeon to the Hospital for Women, and Assistant Surgeon to University Hospital.

GENTLEMEN: In the present lecture I propose to describe those more serious forms of breast disease which tend to destroy life, either by their constant recurrence, or by involving the patient's system and producing a specific cachexia. I avoid the word "cancer," because it is so difficult to define accurately what is meant by the term. If microscopic evidence alone is to be relied on, many growths will be put down as cancer which the clinical history will exclude from that category; and even the highest authorities are not agreed as to whether undoubted cancer is a local manifestation of constitutional taint, or whether the disease is at first purely local and the constitutional affection a consequence of the local mischief. I should be inclined to group together under the term "malignant" both the forms of disease I have mentioned whose tendency is directly to destroy life, reserving the word "cancer" for those tumours which, in addition to naked-eye and microscopic appearances generally recognized as characteristic of that disease, have a clinical history showing progressive infection of the lymphatic system, leading to secondary deposits and a constitutional cachexia.

The *recurrent fibroid* or *fibro-nucleated tumour*—the chief characteristics of which are a close external resemblance to the ordinary fibrous tumour, but a tendency to recurrence after removal, with a pro-

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gressive softening of successive growths—is occasionally found in the breast, and an excellent example of it has recently been put on record by Mr. Nunn. (*Path. Soc. Trans.*, vols. xviii. and xix.) The tumour was developed in the right mamma, and measured 23½ inches in circumference, weighing 4 lb. 12 oz. after removal. The patient was twenty-eight years old and the mother of two children; and the tumour had grown in two years, ulcerating through the skin at the centre of the growth fourteen months after it was first perceived. There was no enlargement of the lymphatic glands. The tumour was removed in March, 1867; and the patient made a good recovery. The tumour was lobulated and its structure fibrous, with spindle-shaped cells in abundance. Towards the end of May the patient discovered a fresh outgrowth; and on her readmission to hospital in July a mass the size of two fists was to be seen at the site of the original tumour. On July 31st Mr. Nunn repeated the operation, but it was evident at the time that the disease had extended through the intercostal spaces and could not be entirely removed. Fresh sprouting of the growth occurred, and the patient died exhausted on October 23d of the same year. At the post-mortem examination, no secondary deposit in internal organs was found, but the tumour was seen to have invaded the pleural cavity, forming rounded protuberances underneath the costal pleura. Microscopic examination showed the tumour to be composed of filamentous tissue abounding with nuclei, and such as would be generally classed as a fibro-nucleated tumour.

The experience of these recurrent tumours in other situations besides the breast is conclusive as to the necessity for complete and early removal, and therefore nothing less than the removal of the entire breast should be thought of when any recurrence of an apparently simple tumour takes place. Even then the prospects of the patient are as gloomy as in true cancerous disease; for the growth is almost certain to reappear, and to destroy the patient, either by the exhaustion of repeated operations or by involving the pleural cavity.

The *myeloid tumour*, whose characteristic is the large multi-nucleated cells resembling those of the fœtal marrow, is found much more frequently in connection with bones (and especially the jaw-bones) than in the mamma. Doubts have been thrown upon the return of myeloid tumours; but, from what I have seen in the case of the jaws, I have no doubt that myeloid tumours are frequently, though not constantly, reproduced. I have never met with a case in the breast, and must therefore content myself with referring to one recorded by Mr. Paget. The patient was fifty years of age, and had an irregular tumour, between two and three inches in diameter, in her left breast, which had existed for nine months. On removal, it proved to be myeloid; and eighteen months later the patient returned with a large ulcerated tumour in the corresponding axilla, from which she died.

The forms of cancer occurring in the breast are, scirrhus, medullary, and colloid; and their frequency agrees with the order in which I have placed them, scirrhus being more common than medullary disease, and colloid cancer being of rare occurrence.

Scirrhus or *hard cancer* is rarely seen before thirty years of age, and may appear at any period after that, but about fifty is the most common age for the disease to show itself. Unmarried women appear less liable to the disease than married women. Thus, of 260 cases of scirrhus given by Mr. M. Baker, 23 per cent. were in single women, 72 per cent. in married women, and 4 per cent. in widows; and consequently, as Mr. Paget remarks, the percentage among single women is smaller than in the female population generally. Commencing as a small nodule, so painless at first that it is often overlooked for some time, the disease slowly increases in the majority of cases, though occasionally, in what has been termed acute scirrhus, the increase is rapid. Soon, as a rule, pain is experienced in the tumour, of that peculiar lancinating or stabbing character which is often looked upon as pathognomonic; but it must be remembered that absence of pain is by no means conclusive as to

the non-malignancy of the tumour, since some cases of scirrhus run their course with little if any suffering. As the tumour increases, the tendency to involve and drag upon the surrounding tissues is developed: and thus, if the disease is central, the nipple becomes retracted and fixed; or if peripheral, the skin overlying it is bound down and dimpled. Lymphatic enlargement now takes place, the glands along the axillary border of the pectoral muscle being those ordinarily affected, though the glands above the clavicle are also liable to infiltration, particularly when, as Sir Astley Cooper has remarked, the original disease is on the sternal side of the nipple, so that the internal mammary lymphatics become the means of conveyance of the morbid material.

Ulceration of the retracted skin is the next pathological feature, and there is, I think, more variation in this than in any other part of the disease. In some cases the ulceration is so slow, and the consequent discharge so slight, that the patient is able, for months and even years, to conceal her malady from her nearest relatives and friends; whilst in others the ulceration proceeds with rapidity, and extends either widely or deeply — for it rarely does both. The depth to which scirrhus may penetrate is of course limited only by the pleural cavity, perforation of which has been often witnessed; but to the extent to which scirrhous ulceration of the skin may reach there is really no limit save the vital powers of the patient. Thus, a fortnight since, I saw a woman, in very fair general health, with an enormous ulcerated surface on the chest and axilla of the size of a plate, which showed no tendency to become arrested but by the death of the patient.

By the time the skin over a scirrhous breast has become at all extensively ulcerated there will in most cases probably be some amount of constitutional cachexia produced, particularly if enlargement of the lymphatic glands has been an early symptom in the case. Added to this, we have the œdematous and painful condition of the arm due to obstruction of the axillary vein by the cancerous deposit; and the patient is at last worn out with the pain and suffering acting upon a lower vitality. The duration of a case is affected very much by the age and constitution of the patient, its course being slower in the older and less plethoric individual; but the dictum of Sir Astley Cooper may be considered a fair one, taking the average of cases—namely, two years for the full development of a scirrhous breast, and from six months to two years longer for a fatal termination to the case. Instead, however, of running its ordinary course, the disease may become arrested in its progress by a form of atrophy, and the patient may then live for years, and die from disease unconnected with the breast. It is, so far as I have seen, in thin elderly women that this atrophic scirrhus is found; and it may happen, as in a case recently under my care, that the disease will suddenly light up afresh, as it were, and its renewed activity will require immediate operative interference.

In these cases, and also in other cases of scirrhus, particularly (in my experience) those in which the primary disease has been removed with success and without return in the breast, we meet with growths of cancer in internal organs—such as the liver, stomach, or uterus—which may be taken as evidences of a constitutional taint consequent upon or antecedent to the primary disease, according to the pathological creed of the surgeon. Development of cancer in an internal organ is, however, ordinarily so much less painful a cause of death than open cancer of the breast, that this well-known liability to the development of internal cancer ought to form no bar to operative interference in suitable cases. In addition, moreover, to these well-recognized positions of cancer, I have once seen a patient, whose breast had been removed some months before, covered all over with small cancerous tubercles of the skin, varying in size from a pin's head to a medium-sized button; and as there was ptosis with strabismus on one side, together with symptoms of brain disturbance, I have no doubt that a can-

cerous tumour was developed in the brain which pressed upon the third nerve, though I was unable to procure a post-mortem examination.

Medullary cancer is much more rapid in its course than scirrhus, often destroying life in a few months. As might be expected from the differences in structure of the two growths, the medullary tumour is larger, softer, and more succulent than the scirrhous cancer. Its tendency to infiltrate the neighbouring tissues is much greater; and hence, when the skin gives way, it is by a process of sloughing, or very rapid ulceration, leaving a chasm through which protrude masses of soft bleeding cancer, giving the appearance characterized as true *fungus hæmatodes*. Any rapidly-increasing solid tumour of the breast must be viewed with suspicion, and more particularly if the veins running over it are much engorged, and if there is enlargement of the neighbouring lymphatic glands. In this form of disease there is much greater probability of a development of secondary tumours in other parts of the body than in scirrhus; thus not unfrequently patients suffering from medullary breast are carried off by some acute chest attack, when secondary deposits are commonly found in the pleura and lungs.

Colloid cancer is exceedingly difficult of recognition prior to removal—in fact, almost all the examples of it have been mistaken for some other disease. The disease wants the hardness which is so characteristic of scirrhus, and is less rapid in its growth than medullary cancer, the lymphatics being also more slowly affected. A good example of colloid tumour of the breast, with a secondary tumour in the axilla, of five years' growth, is recorded by the late Mr. Price in the 8th volume of the Pathological Society's Transactions, and has appended to it an elaborate report upon the microscopic structure of the growth, by Dr. Andrew Clark.

A section of a recent scirrhous tumour shows a dense white structure, the fibrous nature of which is at once obvious to the naked eye. On scraping it a whitish juice exudes, and this under the microscope shows an abundance of cells, with nucleus and nucleolus, which may be considered to be the so-called cancer-cell. I have the advantage of showing you Mr. Arnott's beautiful drawing of the microscopic appearance of scirrhus, and I cannot do better than quote his own description. The drawing shows "the typical form of hard cancer—*i.e.*, cells of an epithelial type, of varying size and shape, but with tolerably uniform (and usually single), large nuclei closely packed in the meshes of a stout fibrillated stroma, without any visible cellular elements." The proportion of cells to the fibrous stroma it is that determines the character of the growth, for if the cell element preponderates over the fibrous, we have the more vascular form of medullary cancer or encephaloma; whilst if the cells have degenerated, and the fibrous interspaces are filled with a little fatty fluid only, we have the atrophic scirrhus.

There is, then, no special microscopic appearance by which medullary cancer can be distinguished from scirrhus, except by considering it as a whole, and here the naked-eye appearances and clinical history assist us much. The brain-like texture, the great vascularity, and the rapid growth and invasion of surrounding structures, enable us to recognize encephaloma in all cases. It is remarkable, as showing how one form of cancer runs into the other, that the secondary deposits in the axillary glands and internal organs after scirrhus of the breast partake more of the medullary or soft form of cancer than the hard; and, in fact, Mr. Arnott's illustration, which I show you, is taken from an axillary gland. This fact is not so surprising, however, when we find that, as the recent researches of MM. Cornil and Ranvier have shown (by means of nitrate of silver as a reagent), the lymphatics communicate directly with the interspaces in the fibrous stroma of scirrhus in which the cells are lodged. It is not surprising, therefore, that the cell element should predominate in the secondary deposits thus produced.

The structure of colloid cancer is unmistakable, a section showing the loculi filled with gelatinous material of various

shades of colour which are so characteristic of the disease. Microscopic examination shows a delicate fibrous stroma, inclosing in its meshes cells, of which some are round or oval, mononucleated, and having within the outer cell-wall several very delicate concentric lines, giving to the cell somewhat of an oyster-shell appearance (H. Arnott). Other large polynucleated cells are found, and also an arrangement of the stroma in concentric circles, inclosing a number of nucleated cells, and having nuclei interspersed among the concentric layers of tissue.

Few persons in the present day would deny the hereditary nature of cancer, though the late Mr. Charles Moore held that the disease "should rather be styled heritable than hereditary," since he believed that the failures in transmission were more numerous than the occurrences. Yet Paget records that of 322 cancerous patients there were 78, or very nearly one-fourth, who were aware of cancer in other members of their families. And there are many well-known cases of numerous members of one family being affected with cancer, of which perhaps the best example is that recorded by M. Broca, of a family, in five generations, of which sixteen persons out of twenty-six died of cancer in its various forms. General experience may, I think, be fairly summed up in Mr. Paget's words: "Every year's experience in practice among persons whose family histories are known makes me more sure that inheritance is the great power in the production of all diseases that are not of distinctly external origin, and among these of cancer."

The transmission of cancer is not necessarily to the same organ as in the ancestor; in fact, Mr. Paget's tables go to show the contrary to be the rule, for of 61 cases, in only 27 the cancer in the descendant was in the same organ as in the direct ancestor, whilst in 34 it was in a different part. On the other hand, many cases have been known of the same organ being affected in many members of one family—*e.g.*, the Middlesex Hospital case of a mother and five daughters all having cancer of the left breast. A remarkable fact in this case too is that each daughter was successively attacked at an earlier age than the one next above her, the disease appearing to increase in intensity in the children as they were born nearer the time when the disease showed itself in the mother. In other cases, where the disease has been traced through three generations, it has been noticed that the daughter was attacked at an earlier age than her mother, and she again than the grandmother.

Mr. Moore, in his paper on the "Antecedents of Cancer," endeavoured to show that the elder children of a cancerous mother were more liable to the disease than the younger ones; but this is contradicted by the statement given above, for it is evident that the children born nearest the outbreak of cancer in the mother would be most likely to inherit the constitutional taint. Moreover, although it may happen that in a given number of cases the elder children are affected, it must be remembered that, having been born when the mother was in good health, they have had stamina sufficient to live long enough for the cancer to show itself, whilst their younger brethren have possibly died before the disease appeared. Mr. Moore's observation, if correct, that cancer affects the otherwise healthiest members of a family, would confirm this view, for a certain amount of healthiness is essential for the longevity required for the development of cancer in the elder members of a family.

Cancer of the breast is by no means incompatible with pregnancy. Thus in the early part of 1869 I was consulted in the case of a patient, who had advanced cancer of one breast, and also a tumour (doubtless cancerous) of the ilium, who was pregnant. She went her full time, and gave birth to an apparently healthy child, which is now alive and well, and has survived its birth five months. The prospects of a child born under such circumstances one must conclude to be very bad, and he is the youngest of a large family, all apparently in good health. Women have been known even to suckle with a cancerous breast, but such a practice ought not to be permitted by the

surgeon. An interesting example of a scirrhous tumour, complicated with lacteal tumour from this cause, has been recorded by Mr. John Wood. (*Pathological Transactions*, vol. xix.)

The treatment of cancer of the breast must necessarily be influenced by the opposite pathological views already referred to. The surgeon who holds that the local tumour is merely an evidence of constitutional dyscrasia will busy himself with endeavouring to counteract the morbid conditions of the system by medicines, and will be content to leave the local manifestation alone, or at most endeavour to disperse the local mischief. With this object he may employ iodine locally, and internally in the form of iodide of potassium; he may apply bromine in the form of a tincture (as recommended by the late Mr. Colles) to enlarged glands or infiltrated skin, and give the bromide of potassium internally; he may apply cooling lotions or freezing mixtures to the tumour, in order to retard its growth, or may make use of pressure in its varied forms to procure possible absorption; and he will almost certainly be disappointed, and find that the disease makes unmistakable and fatal progress notwithstanding. I say nothing of the various orthodox and quack plasters which are from time to time recommended for the *cure* of cancer, for the subject is beneath notice. At this very moment there is, I know, a foreigner in London who professes to have discovered the long-looked-for "cure-all," and has been allowed, I regret to hear, to try his discovery on the patients of one metropolitan institution, but without any special result.

On the other hand, if the surgeon is convinced that the disease, although the result of hereditary taint, is at first localized in the organ it attacks, but tends to spread in the tissues and affect the system generally through the lymphatics, he will endeavour to rid his patient at as early a moment as possible of the source of mischief, and will thereby, in my opinion, be giving her the best chance of prolonged life and comfort. Of course there are cases in which no judicious surgeon would advise any local interference at all; and it will be convenient, before considering the methods of operating on cancerous breasts, to note what are the circumstances favourable and unfavourable for such interference.

The most favourable concatenation of circumstances is when in a middle-aged patient, of robust health and moderate *embonpoint*, there is a small scirrhous tumour in the neighbourhood of the nipple, which, though retracted, is not ulcerated, while the skin over the breast is healthy and loose, and the axillary and cervical glands are unaffected. From this standard every degree of divergence is met with, and since every surgeon must use his knowledge and experience in deciding as to each individual case, it necessarily follows that differences of opinion will arise in certain cases even among the most distinguished surgeons. There is, however, little difficulty in arriving at the opposite extreme—*i.e.*, the cases which ought *not* to be interfered with; and these by common consent are, rapidly-growing tumours, with great infiltration of the skin, and extensive implication of the glands; cases where other tumours exist, and particularly in the opposite breast; where cachexia is already well established; or where the skin is extensively ulcerated.

The question of local interference in diseases of the breast involves the more important and somewhat disputed question whether the tumour alone, or the entire breast, should be removed. If we believe that cancer has a tendency to spread through the neighbouring tissues, and thus reproduce itself, it is obvious that a complete removal of the organ in which it commences is best, and I am astonished to find that in the present day there should be an attempted reaction in favour of excising the tumour only in cases of cancer of the breast. There may be cases occasionally where the disease is localized in the outer margin of the breast, and is in a very early stage, in which the patient is loth to submit to the more serious operation, and the surgeon may then be justified in excising the tumour, with some of the surrounding structures; but he should for his own

credit's sake explain that the operation is necessarily an incomplete one.

It was pretended at one time that caustics could be applied so as to remove the diseased structures, and leave the healthy; but even the most ardent supporters of that method must allow that the tissues are destroyed indiscriminately by the chemical agents placed in contact with them. The advantages claimed for the caustic treatment by its modern upholders were, the diminution of risk to the patient, the painless character of the proceeding, and the more thorough removal of disease produced by it. With regard to the first point, the immediate danger of an operation (which in the case of the breast is but slight) is certainly obviated, but the after-risks are increased; the patient being liable to exhaustion from prolonged suffering and discharges, and also to the not unfrequent occurrence of inflammatory attacks on the chest, due apparently to the action of the caustic. In respect to pain, there can be no question of the balance being against the caustic, the burning, wearing pain of which is infinitely greater than that experienced *after* an operation performed under the influence of anæsthetics; whilst the removal is really no more complete and thorough than can be obtained from a carefully performed operation, particularly if combined with the use at the time of some chemical solvent of the tissues, as recommended by Mr. De Morgan. The cases most suitable for the caustic treatment are open cancers and cases of recurrent growth, and the applications in most common use are the chloride and sulphate of zinc, made with flour into a paste, which should contain a small quantity of morphia so as to deaden the pain of the application. If the skin is not already ulcerated, it must be destroyed with nitric acid, since it resists the caustic paste. The caustic is best applied on strips of lint, and is pressed firmly against the sore. When the surface has become converted into a gray insensible mass, incisions are to be made through it into the living textures beneath, and into these cuts strips of lint, smeared with the caustic paste, are to be laid. By repeating this operation again and again, the entire breast may be caused to slough out, leaving a large wound, which takes many weeks to granulate up.

In amputating a breast, it is, I believe, most important to remove all skin, fat, and cellular tissue which may possibly contain cancer-cells; and if the growth is adherent to the pectoral muscle, there should be no hesitation in removing some depth of its texture, so as to be well beyond the influence of the disease. The incisions necessary for removing a breast cannot properly be limited to the ordinary elliptical incisions above and below the nipple; for the skin may be involved in other parts, and if any diseased portion is left the operation is useless. Any enlarged glands in the axilla should be removed at the same time; and there is, I find, no difficulty in clearing away all that is necessary in this region, without danger of hemorrhage, by employing the finger freely to enucleate the glands, rather than by dissecting them out with the knife. The free use of a strong solution of chloride of zinc to the whole of the wound is, I think, decidedly advantageous in destroying any remnants of disease in the surrounding tissues; and the occurrence of suppuration during the process of healing seems to be of advantage, rather than otherwise, in the same direction.

The hesitation in removing sufficient skin, which has doubtless rendered many operations on the breast abortive, has to a great extent been obviated by the recent suggestion of M. Reverdin to transplant small portions of healthy cuticle from other parts of the body to the granulating sore left after a free removal of skin. The islands of skin set up by a successful skin-grafting of this kind certainly favour the healing of the wound, and obviate to some extent the painful dragging of the cicatrix so often seen. In a case of my own I was able to transplant five portions of cuticle from the arms to the granulating surface a fortnight after an extensive removal of the breast, and the case did remarkably well.

The results of operations for cancer of the breast vary of course considerably according to the nature of the case and

the previous health of the patient. The operation itself is a remarkably successful one as regards immediate danger to life, although every surgeon must occasionally lose a patient after this, as after every other surgical proceeding, even the simplest. But, in stating the risk to a patient, one has the satisfaction of pointing out that in all probability great relief from immediate suffering will be obtained, and a possible immunity from return in favourable cases. With regard to the prolongation of life as influenced by an operation, professional opinion has undergone a change within the last few years. It was thought by many surgeons that, though comfort was gained by an operation, yet that life was shortened; but the elaborate tables of Mr. Sibley and Mr. Baker, published in the *Medico-Chirurgical Transactions*, show a different result. Mr. Sibley, whose statistics are drawn from the records of the Middlesex Hospital, states that "in the cases of cancer of the breast, those who had been operated on lived 53 months, whilst those in whom the disease was allowed to run its natural course lived only 32 months." Mr. Baker, whose data are drawn from Mr. Paget's experience, says "the average length of life in scirrhous cancer is 43 months when the primary disease is not removed, and 55 months when the operation is performed; whilst in the case of medullary cancer the results are even more striking, being 20 months without, and 44 months, or more than twice the time, with an operation." These results are sufficiently encouraging, and probably the statistics of operation cases may prove more and more satisfactory as both the profession and the public become convinced of the necessity for an early and complete removal of cancerous growths.

With regard to the average date of recurrence of cancer, the greater malignancy of the medullary cancer is again seen, that disease ordinarily recurring within one year, whilst scirrhus does not reappear till the second year, the average time given by Mr. Baker being nearly 14 months for scirrhus, and 7 months for medullary disease. — *Lancet*, June 24, 1870.

Clinical Lecture on Fracture of the Patella. By JONATHAN HUTCHINSON, Esq., Surgeon to the London Hospital, &c. &c.

GENTLEMEN: The patient before us presents a good example of the ordinary fracture of the patella. His right patella has been broken across transversely below the middle, so that the upper fragment is larger than the lower one. In this case the disproportion between the two fragments is greater than usual, the lower portion forming not more than a fifth of the bone. He has now been in the hospital several weeks, and the two portions are very close together, so that he will have, in all probability, a very useful limb. When he first came in there was a considerable interval between the fragments, and his knee was swollen by effusion. The effused fluid was absorbed after a few days' rest in bed, and we then put his limb on a straight back-splint and applied strips of plaster from below the lower fragment upwards, so as to fix this portion of the bone, and other strips from above the upper fragment downwards, so as to bring this portion of the bone downwards to the lower fragment. The limb has been allowed to lie flat on the bed.

I do not purpose now to give you a complete account of fractures of the patella, preferring, rather, to make some remarks on the most important points in the kind of fracture before us, under the headings of *Cause of Separation of the Fragments—Treatment—Mode of Repair.*

In most patients suffering from transverse fracture of the patella, if we examine the bone several hours or a day or two after the accident, we find the fragments separated from one another by a considerable interval, from a quarter of an inch to an inch. We also find, most likely, considerable effusion into the joint. At first thought we shall, perhaps, be inclined to ascribe the separation of the fragments to contraction of the rectus muscle; but that it is really due to quite another cause will be apparent when we examine a little further. We shall probably find, in the first place, that the rectus muscle is not in a state of contraction, or that it becomes so only under the pressure of the fingers or at the patient's will. It is true that

muscles possess a certain small amount of *elasticity* in addition to their *contractility*, and this elasticity, when unopposed, will tend to draw the fragments apart; this force is, however, comparatively unimportant, and for practical purposes it may be safely neglected. We must bear in mind that the patella is firmly attached by its entire circumference to tendinous or ligamentous structures of great strength. Now, when the bone is broken across the fibrous attachments on each side, the tendons of the vasti remain entire, and they are amply sufficient to hold the portions of the patella in place, and prevent their separation, so long as there is no distending force exerting pressure from within. Soon, however, fluid is effused by the synovial membrane, the joint is distended, and what was before a mere fissure through a bony part of the joint-capsule becomes a wide gap. This is the state in which we generally find the knee-joints of patients admitted with fractured patella. In a few cases, however, scarcely any effusion takes place, and it is precisely in these rare cases that the broken portions of the patella never become separated to any appreciable extent. Those cases in which the joint does not become distended, and the fragments are not separted, are the most favourable of any as regards good union; the case will be unfavourable just in proportion to the *amount* and *duration* of the effusion—*i.e.*, the extent and duration of the separation of the fragments. The further the fragments are apart the more difficult will it be to bring them together, and the longer they remain separated the less likely are they to unite by bone.

You will readily see, then, that the principles of treatment are to prevent effusion if it has not occurred, to favour absorption of fluid which has been poured out, and to bring the fragments of the patella into close and permanent apposition.

It is unnecessary that I should go into detail on any but the method of carrying out the last-named principle.

The plan which I invariably adopt, and which has been carried out in the case before us, is to put the limb on a straight back-splint, and by that means bring the lower fragment as high as possible, and by pieces of cross-strapping maintain it there; then to bring down the upper fragment by strapping and firm bandaging as near as may be to the lower fragment, and keep it there by readjusting the strapping as often as it gets at all loose. Many surgeons after doing all this proceed further to elevate the whole limb into the air, with the intention of shortening the distance between the origin and insertion of the rectus muscle. I never adopt this practice, because I believe it to be quite useless, and very uncomfortable to the patient. The advocates of the elevation plan defend it by appealing to a constant state of partial contraction of the muscles, which is supposed to be mainly instrumental in causing the separation of the fragments; and they assert that by lessening the distance between the ends of the muscle they dimininish the consequence of this contraction.

I do not for a moment deny that the origin and insertion of the rectus femoris muscle are brought nearer together by elevating the thigh, or by raising the body. I assert, however, that the muscle when left to itself is not in a state of constant contraction; but, on the contrary, that it very soon relaxes completely, and that, therefore, any arrangement for shortening the distance between its attachments is uncalled for. I repeat, also, what I have already mentioned, that it is not to contraction of the rectus but to synovial effusion that the separation of the fractured portions of bone is due, and that it is, therefore, useless to make any special provision for insuring the relaxation of the muscle. I am even of opinion that elevation of the limb may be injurious, for we place it in a constrained position, and I think that muscles when in positions of discomfort are more likely to take on irregular and violent action than when allowed to rest in their ordinary postures.

A few words as to the mode of repair in transverse fractures of the patella. I am inclined to think that bony union is not so rare as it is supposed to be. I have dissected one specimen of union by

bone, and I have seen several cases in which I had not the slightest doubt that bony union had taken place. The last case that I discharged from the hospital was, I believe, one of this kind. I have quite lately seen a gentleman who was treated by his brother, a surgeon, twenty years ago, for fracture of the patella, and whose limb has during that time been in every respect as good as it was before the accident. There is in him a groove across the patella marking the seat of fracture, but on examination I felt no doubt whatever as to the repair having been by bone. The most favourable cases, as I have before mentioned, are those in which no effusion occurs, or in which the effusion is comparatively slight, and disappears rapidly, and which are treated by prolonged rest in bed, these being the cases in which there is little, if any, separation of the fragments. When the fragments of the patella are separated widely, and for a long time, then bony union is very unlikely to occur.—*Med. T. and Gaz.*

HOSPITAL NOTES AND GLEANINGS.

Hereditary Bronze Colour of the Skin Simulating Addison's Disease.—The interest in the following case, under the care of Dr. JAS. RUSSELL, in the Birmingham General Hospital, lies in the contribution it makes to the clinical history of that form of coloured skin which in its general characters imitates very closely the colouring observed in Addison's disease. In the present instance, indeed, the resemblance was so striking that, on a superficial examination, the idea of Addison's disease at once occurred to the mind. Joined to the colouring of the skin, in this case, is to be added the circumstance which generally gives significance to cases of questionable diagnosis in the disease just named—the presence, namely, of protracted anæmia, without any of the usual explanations of that condition being presented by the patient. Of course the occurrence of dark skin in other members of the patient's family at once threw doubt upon the diagnosis, and the doubt was confirmed by the absence of certain peculiarities in the distribution of the colour which are present in Addison's disease. Similarly, the symptoms, whilst coinciding with those of Addison's disease so far as the general evidence of anæmia went, were yet wanting in those special developments related particularly to the circulating and digestive apparatus, which impart so decided a character to the history of true Addison's disease.

C. F., aged 38. The whole of the body and limbs presents a remarkable tint of a rather dusky copper-brown. The colour is perfectly uniform in all parts, excepting on the soles of the feet, where it is nearly, if not quite, absent. The bronzing is very deep over the entire trunk, before and behind. It is also strongly marked on the dorsum of the hands and of the feet, where it is very dusky. The forearms and the knees are deeply coloured; the rest of the extremities more lightly. But the forehead and face, though presenting the characteristic tinge, are the palest parts, with the exception of the palms; the face has rather an anæmic character. The nipples and their areolæ are of a deep brown, but, with this exception, the parts of the body which usually exhibit a deep colour in Addison's disease—the armpits, groins and scrotum—are not, with the partial exception of the latter, more deeply tinged than the neighbouring skin. Moreover, the eyeballs, in place of being clear and pearly, have a curious smoky colour, somewhat intermixed with yellow; the lips and the glans penis are very smoky; the mucous membrane of the lips, cheek, gums, hard and soft palate is simply anæmic, quite without any streak or stain. The patient's hair is everywhere jet-black; his eyes deep brown. He asserted that his skin had always been dark, but that it had become materially darker since his illness began, the change being progressive. The accuracy of this statement is fully established by my friend Dr. Buck, who had watched the patient for the last three years. A change in the opposite direction took place, in a marked degree, in his face whilst in the hospital. There appears no doubt that a dark skin is hereditary in some members of the patient's family on his father's side. His father

had black hair and a dark skin; a brother and sister of his father had also black hair, but a fair skin. He remembers that one of his brothers had black hair and a dark skin; and all his sisters, seven in number, had black hair. He can say nothing further, as he has been away from his family for a long time. Out of seven of his children, five have black hair, and one a dark skin in addition. He knows that his family have lived in the neighbourhood of Pershore, in Worcestershire, for the two generations preceding his own, and that they have been healthy. His illness began seven years ago, with a sudden attack of giddiness and sickness whilst he was working in the fields in the summer-time, probably a mild sunstroke. He lay in bed two days, but from that time he dates gradually increasing debility. Each spring he has been laid by with an attack of weakness, of increasing duration and severity, and on each occasion he has less perfectly recovered. During the past three years he has greatly failed in capacity for work, and during the past year has been almost incapacitated—indeed, the chief question which Dr. Buck had to decide was whether he should be permanently removed to the workhouse. But with these symptoms he has suffered little or not at all from faintness; his breath, though rather short if he exerted himself specially, has never troubled him much, and though he vomited his food during a fortnight, in an attack which he suffered last year, yet he has been almost free from this symptom. His appetite has been variable, frequently voracious. He has never passed worms. During the whole period of his residence in the hospital he has been entirely free from any important symptom; his appetite has been good; he has always been about, and fairly active. For the rest, he is fairly nourished, presents no disease in any organ, his urine is free from albumen and from sugar, he has been quite free from œdema.—*Med. Times and Gaz.*, May 30, 1871.

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1. *Unusual Symptoms of Overloaded Rectum.* 2. *Severe Rheumatic Fever.* 3. *Intense Jaundice.* 4. *Hysteria in a Child.*—The following, under the care of Dr. Ogle, at St. George's Hospital, are instructive:—

1. An old woman, the subject of bronchitis and emphysema, was admitted with pain at the lower part of the abdomen, and dysuria—symptoms to which she had been previously subject. She was suffering from constipation at the time. Her sensations were those of a tumour in the vagina. Enemata which were injected were returned from the bowel. On a vaginal examination being made, nothing was found wrong with the uterus or vagina; but the rectum was found to be crammed full of hardened feces. It felt like a large tumour in the vagina. Persistence in strong purgatives brought away large quantities of feces, and removed the pain and difficulty of voiding urine, which had evidently been due to mechanical obstruction. The bowel would have been relieved with the scoop, had it not been relieved by medicine.

2. A case of *severe rheumatic fever*, of one month's standing, in a fire-brigade man, after exposure to wet for twenty-four hours. At first it was treated by simple effervescing salines, and two-grain doses of quinia; as sickness came on, the latter was discontinued. He made a good recovery under neutral salines, and one or two doses of Dover's powder. Quinia was again resorted to during convalescence. The patient had had a similar attack, with a relapse, eight years previously. There was no heart-complication.

3. A case of *intense jaundice*, of two weeks' standing, in a young woman, following vomiting, which was attendant upon severe nursing night and day. She suffered no pain or abdominal enlargement, the urine was full of bile, and motions wanting. She recovered under taraxacum, and nitrate and acetate of potash, with occasional aperients, so as to leave the hospital with but a slight tinge in a fortnight.

4. A case apparently of *hysteria* in a child aged twelve. She had refused solid food for eighteen months, and had lived chiefly on sweets. On admission she lay cramped up in bed, complaining of intense pain in the abdomen, with her eyes constantly closed or half closed, as if light

gave pain. The expression of pain was always exaggerated when she was watched or spoken to. She was very thin and weak, but no actual disease of any organ could be determined, and the temperature has been natural. Under proper food, with steel and quinia, valerian, and a little stimulant, she has much recovered already. She has been made to use her muscles, and to sit up near the window watching the "row" in the park, and has had shower-baths. She is eating solid food now, and taking cod oil, and is increasing decidedly in weight.—*Lancet*, Aug. 5, 1871.

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Chronic Inflammation of the Larynx; Impending Suffocation; Tracheotomy; Recovery.—The following case, treated in the Liverpool Royal Infirmary, under the care of Mr. R. HARRISON, illustrates the advantages of tracheotomy, not only in affording immediate relief to the distress occasioned by impending suffocation, but by placing the inflamed organ in a state of comparative rest, and facilitating the process of repair which the abnormal activity of the part interrupts.

On his admission, the patient (Henry A.), who was twenty-four years of age, was in a state of considerable distress, arising from difficulty of breathing, which rapidly increased. The symptoms, which had latterly increased considerably, had existed for nearly a year. No distinct history of syphilis could be obtained, though he had two slight frontal nodes. He had never suffered from hæmoptysis, and, beyond some coarse breathing about the apex of the right lung, there were no advanced symptoms of chest complication. He was of a decidedly strumous type. Four years previously his right elbow-joint had been excised by Mr. Bickersteth, with a very good result, the resulting limb being an exceedingly useful one. When admitted, he was so much distressed that he was not able to submit to inspection by the laryngoscope. As several measures designed to afford relief had already failed, and as the obstruction to the entrance of air was clearly on the increase, it was determined, after a consultation, that tracheotomy should be performed without delay. The presence of large veins and a very receding trachea rendered the operation more than usually embarrassing. The patient made a good recovery. The tube was kept in for two months. When the patient was seen about a fortnight later the opening in the trachea had completely closed, the breathing was natural, and the voice was almost completely restored. He was advised to continue the use of cod-liver oil, with iodide of potassium and iron.

In reference to this patient, Mr. Harrison says that, in similar cases of chronic character, delay not rarely results in sudden death from œdema and spasm of the glottis, a condition which in all probability might be averted by early operative interference. When the proper aeration of the blood is interfered with, the time for the performance of tracheotomy has arrived, for the patient's blood is not equal to the repair of the diseased part, while the slightest accident may be sufficient to cause instantaneous death.—*Lancet*, June 10, 1871.

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Use of the Æsthesiometer in Diabetes.—Prof. LAYCOCK called the attention of his class, at the Edinburgh Royal Infirmary, to the fact that anæsthesia is one of the morbid conditions in diabetes mellitus, and that the defective nutrition and abolished functional activity of the cutaneous glands depended upon a centric neurosis, of which the hunger, thirst, and abnormal productions which characterize the disease are also signs. It is this defect in trophic innervation of the skin which renders diabetic patients so peculiarly predisposed to cutaneous diseases, and upon which the harshness and dryness of the skin depend.—*Med. Times and Gaz.*, May 20, 1871.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

Malformation. By WM. P. OVERTON, M.D., of Cold Springs, Long Island, N. Y.

Mrs. F., æt. 32, mother of six well-formed children, gave birth, July 21st, at full term, to a child with all the intestinal

canal, except the rectum, external to the abdomen. There was an aperture a little to the right of the umbilicus large enough to admit two fingers, through which the bowels protruded.

In every other respect the child was well formed and healthy. It lived three days, during which time it nursed freely, and had several passages from the rectum.

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Abscess of Appendix Vermiformis Cæci—Recovery.—Dr. Krackowizer stated at a meeting of the Medical Society of the County of New York, that of a number of fatal cases of this affection in his practice, he could relate one of perfect recovery. A young man in Brooklyn was taken with the symptoms of this affection. After a time Dr. Post was called in consultation; and, finding an evident abscess in the iliac fossa, he cut into it, with great relief to the patient. During the formation of the tumour very general and serious peritonitis had occurred, which was controlled by opium. The patient soon recovered, and the wound healed; when, without known cause, unless too much exercise, the pain recurred, and peritonitis was lighted up afresh. Four or six weeks later, the same scene was re-enacted. At this point I was called to see the patient, in consultation, and found general peritonitis, well controlled under the opium-treatment. There was a fluctuating swelling in the right iliac fossa, and I had only to follow the cicatrix of the previous incisions to give the matter exit. The patient was removed to this city, and the wound had nearly healed, when, as he was looking out of a window, a mad bull rushed through the street. Suddenly throwing up his hands, he felt a sharp pain in the old place; was taken down in the same way as before; and a new abscess formed, again to be discharged by incision. One morning, when he had for the fourth time nearly recovered, he noticed, as he threw the wet compress from the wound into the basin, a click which arrested his attention. It proved to be due to the seed of a pear or an apple. From that time the healing was very rapid, and there was no recurrence of the trouble. This was some thirteen years ago. I have since been in the habit of seeing the gentleman from time to time, and not the least trace of any tumour or tenderness can be found — *Medical Record*, May 1, 1871.

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Prize Essay on Diseases of Children. Open for Universal Competition.—The President of the Medical Society of the County of New York, Dr. Abraham Jacobi, has placed in the hands of its treasurer four hundred dollars, to be awarded for the best essay on "A History of the Diseases of Infancy and Childhood in the United States, and of their Pathology and Therapeutics."

Competitors will send their essays in English, with motto attached, and the name and address of the writer, with the same motto, in a sealed envelope, to the present Secretary of the Society, Dr. Alfred E. M. Purdy, 123 East Thirty-eighth Street, New York, on or before January 1, 1873.

The committee are authorized by the Society to withhold the prize if the essays submitted should not merit it. Austin Flint, M.D., Ernst Krackowizer, M.D., Edward S. Dunster, M.D., committee.

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Death from Chloroform. — It is announced in the daily papers that a lady died in Brooklyn, in a dentist's office, from chloroform administered by an experienced practitioner. Only four drachms of chloroform, it is stated, were administered.

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New Remedies. A Quarterly Retrospect of Therapeutics, Pharmacy, and Allied Subjects.—This is the title of a journal, the first number of which appeared in July last. It is edited by Dr. Horatio C. Wood, of this city, and published by Wm. Wood & Co., of New York. Its title fully expresses its objects, and under its able editor it will doubtless be a useful publication.

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The Clinic.—This is the title of a new weekly journal, edited by Dr. Jas. T. Whittaker, Professor of Physiology in the Medical College of Ohio, of which the sixth number only has reached us. That

number is well filled with instructive matter, and we welcome our new contemporary to our exchange list, and wish it a successful career.

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Number of Physicians in New York.—There are in New York City, Brooklyn, and their vicinity, it is stated in the *New York Medical Register* for 1871, 1553 physicians in good standing.

FOREIGN INTELLIGENCE.

Extract of Conium in Inflammation of the Breast.—M. ALDSTADTER, of Pesth, strongly recommends (*Wiener Med. Presse*, No. 12, 1871) small doses of extract of conium, repeated several times in the course of the day, for the resolution of inflammation of the breast, arising from stasis of the milk in puerperal women, and reports several cases in which striking advantage was obtained from its use. In all instances care should be taken to obtain as pure and active a specimen of the drug as possible.—*The Practitioner*, Aug. 1871.

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Spasmodic Muscular Contraction—Arterial Compression.—M. BROCA had under his care, a few months ago, in the Hôpital de la Pitié, a man who had broken both bones of his leg an hour before his admission to hospital. The muscular contraction was so violent that it was impossible to reduce the fracture. M. Broca thereon employed a method which he had found successful in cases of painful cramps of the lower limbs, viz., compression of the femoral artery. Almost immediately the muscles became relaxed, and reduction was effected with ease. Subsequently, in reapplying the splints, the contraction returned, and was again overcome by the same means. The *Journal de Médecine et de Chirurgie Pratique* for March, in relating the case, says that the simple and easy means employed by M. Broca ought always to have a trial before giving chloroform, which is often done in such a case.—*Med. Record*, Sept. 15, 1871.

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Phosphates in Pregnancy.—Mr. METCALFE JOHNSON, of Lancaster, recommends in the *Med. Times* the hydrated phosphate of lime of the "British Pharmacopœia" as a remedy for the sickness of pregnancy. He gives it in doses of three to ten grains each, three times daily, suspended in water and flavoured according to the patient's taste. In some cases the relief has been so striking that patients have sent to ask for "some of that medicine that relieves the sickness." Mr. Johnson thinks the drug may supply phosphates to the nervous system and also to the embryo, and that if phosphates be not supplied, the child may grow at the expense of the mother's osseous and nervous tissue.—*Doctor.*

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Deaths from Chloroform.—"We observe with regret," says the editor of the *British Med. Journal* (May 20, 1871), "that two more deaths have occurred this week from chloroform. These frequently recurring accidents afford a significant comment upon the importance of the questions which we have prominently raised concerning the relative mortality of anæsthetics, and the plea which we have urged for a reconsideration of the claims of ether and an extension of surgical practice, in suitable cases, to the nitrous oxide. It is announced in the daily papers that Lieut.-Col. Rogers, R.A., was staying with his brother at Cornwood last week, and, while in the garden at the back of the house, fell over a plant-pot, thereby receiving a compound fracture of the leg and a dislocated ankle. The broken bones were set by two medical gentlemen of Plympton; but, Colonel Rogers not progressing, a third medical man was called in, and it was decided that the leg should be reset while the Colonel was under the influence of chloroform. The latter was administered, and caused almost instant death. No blame is attached to the medical gentlemen."

The second case occurred in the London Hospital. The subject of it was a female æt. 48, who had suffered for a long time from extensive syphilitic ulceration of the leg. She had taken chloroform exactly a week previously, that an attempt might be made to obviate some contrac-

tion about the knee-joint. She had borne its administration well, but it was followed by vomiting, which lasted three days. She had a high temperature, and two rigors, which were probably due to the operative measure. She took scarcely any food up to the day of operation, and had to be sustained by enemata.

On the day of her death (May 3d) chloroform was being administered by the House-Surgeon, who had given it on the former occasion, when, before insensibility had been produced, she made a convulsive movement, and, almost immediately afterwards, *she was seen to turn very suddenly livid.* Her pulse at this moment was felt to beat very rapidly, and the next moment it ceased quite suddenly. She gave one or two spasmodic gasps.

Artificial respiration, sprinkling and flipping with cold water, were immediately resorted to, and a small quantity of blood was abstracted from the jugular vein. There were one or two gasps for breath—probably death-throes; but, although restorative means were kept up for above half an hour, no signs of life appeared. Mr. Couper examined her eyes with the ophthalmoscope, and found the retinal veins greatly distended.

Dr. Sutton remarked that the patient apparently died in consequence of the blood being unable to pass through the lungs. The lungs had the dark red appearance similar to what is seen when death takes place during the collapse stage of burns; and the diminished weight of the lungs showed that they did not contain their normal quantity of blood. The venous system was very much congested; and the comparatively empty condition of the left ventricle, and the appearance of the kidney-tissue (excepting where the veins were distended) tended to show that the arterial system was in a great measure empty.

The evidence tended to show that the patient did not die from asthenia, or, in other words, from failure of the left ventricle, for it was not very flaccid, nor was its cavity full of blood, as is usually seen when death is due to the latter cause. The heart was, however, small, and the muscle very soft, and the microscope showed that it had undergone so-called fatty degeneration to a considerable extent. — *British Med. Journal*, May 27, 1871.

A third case is recorded in the same journal for July 29, 1871, which occurred in the Royal Aberdeen Infirmary, under the care of Dr. Pirrie. The subject of it was a man æt. 37, said to have been of intemperate habits, who was about to be operated on for the radical cure of hernia. Dr. P. ascribed the death to mixed causes, viz.: chloroform inhalation, dread of the operation, and fatty degeneration of heart, the latter being most influential.

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Sir James Paget.—Queen Victoria has just conferred the dignity of baronet upon James Paget, Esq., "Sergeant-Surgeon Extraordinary to Her Majesty and the heirs male of his body lawfully begotten." This announcement has been hailed with universal satisfaction in Great Britain, and we in America partake in the gratification felt at the bestowal of this honour upon one of the most accomplished surgeons and pathologists that have adorned medicine, and one who has done much to advance the science of which he is still a most ardent student.

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Ununited Fractures.—A volume of 700 pages, illustrated with 102 figures by Bérenger-Féraud, on the subject of surgical pathology, is highly noticed in *L'Union Médicale*, 18th August. It is said to be a complete monograph, showing the existing state of our knowledge with regard to the pathological anatomy, etiology, and treatment of ununited fractures.

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The Female Medical Students in Edinburgh.—We learn from the *Lancet* (July 22, 1871) that at a late meeting of the lecturers at Surgeons' Hall, Edinburgh, it was resolved by a majority to rescind the resolution adopted last year permitting lectures "to female as well as to male students." The lecturers are now, therefore, prohibited from giving instruction to female students either separately or in mixed classes.

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